

In the Claims

1-22 (canceled)

23. (Withdrawn) A water heater flue tube for a water heater having a water heating compartment, said flue tube comprising at least one single piece tubular member, said tubular member further comprising a restricting and turbulating structure, said structure comprising at least one fluid path obstruction comprising at least one pair of confronting indentations which each define a generally parabolic shaped dimple, said dimples contacting one another and defining a dead flow area between said dimples through which fluid flow is negligible and forming a pair of adjacent converging, diverging nozzles separated by said dead flow area and wherein each nozzle has an aperture through which said flue gas may flow and providing a restricting and turbulence inducing function as flue gas travels through said tubular member while providing resistance to collapse or deformation of said tubular member due to hydrostatic forces generated by water in said water heating compartment.

24. (Previously Presented) A heat exchanger apparatus comprising at least one single piece tubular member having a normal radius and a generally circular cross section, said tubular member further comprising a restricting and turbulating structure, said structure comprising at least one opposing pair of obstructions having a generally parabolic dimple shape disposed within said tubular member and wherein the entire obstruction of each pair of obstructions are

aligned with respect to each other and project into said tubular member until they contact one another to form a dead flow area between the obstructions through which fluid flow is negligible and a pair of adjacent converging, diverging nozzles separated by the dead flow area each having an aperture through which a fluid may flow and maintain the normal radius of the tubular member within the circular cross section along the entire tubular member.

25. (Previously Presented) A heat exchanger apparatus comprising an inshot burner and at least one single piece tubular member having a normal radius and a generally circular cross section, said tubular member further comprising a restricting and turbulating structure integral to said tubular member and disposed within said tubular member, said restricting and turbulating structure comprising at least one pair of opposing indentations having a generally parabolic dimple shape extending into said tubular member until said indentations contact one another, the entirety of said opposing indentations of a pair being aligned with respect to each other, said pairs of opposing indentations disposed within said tubular member to form a dead flow area between the obstructions through which fluid flow is negligible and a pair of adjacent converging, diverging nozzles separated by the dead flow area, each nozzle having an aperture through which fluid may flow and maintain the normal radius of the tubular member within the circular cross section along the entire tubular member.

26. (Previously Presented) The heat exchanger apparatus of claim 25 wherein said

obstructions are located at a 45° angle relative to a vertical axis of said tubular member.

27. (Previously Presented) The heat exchanger apparatus of claim 25 wherein said obstructions are located on an axis oriented at an angle of between zero and forty-five degrees relative to a vertical axis of said tubular member.

28. (Previously Presented) The heat exchanger apparatus of claim 25 wherein said tubular member is bent into a serpentine shape.

29. (Previously Presented) The heat exchange apparatus of claim 25 comprising a plurality of said tubular members.